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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,206	08/31/2006	Masayuki Ikeda	9319S-001760/US/NP	6633
27572	7590	04/01/2008		
HARNES, DICKEY & PIERCE, P.L.C.			EXAMINER	
P.O. BOX 828			NGUYEN, HAI V	
BLOOMFIELD HILLS, MI 48303				
			ART UNIT	PAPER NUMBER
			2618	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/591,206

Applicant(s)

IKEDA, MASAYUKI

Examiner

Hai V. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 08/31/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to the application filed on 31 August 2006.
2. Claims 1-7 are presented for examination.

Drawings

3. Figures 11-12 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the elements of "an antenna in which a diameter of a sphere including a radiator is smaller than $1/(2\pi)$ of a wavelength of an electromagnetic wave used in either said second transmission unit or said reception unit" in claims 1, 4; the elements of "evaluation means for evaluating a reception condition of said reception unit; control means for controlling a frequency of an electromagnetic wave transmitted by said second transmission unit; and feedback means for feeding back an evaluation result made by said evaluation means to said control means." in claim 4; the element of "a first internal wireless communication control unit mounted on said first housing unit, for controlling an internal wireless

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communication executed between said first housing unit and said second housing unit; a second internal wireless communication control unit mounted on said second housing unit, for controlling an internal wireless communication executed between said first housing unit and said second housing unit"; "an internal wireless timing control unit" in claim 7 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The textual portion of the specification is replete with grammatical and idiomatic errors too numerous to mention specifically. The specification should be revised carefully.
6. The applicant should use this period for response to thoroughly and very closely proof read and review the whole of the application for correct correlation between reference numerals in the textual portion of the Specification and Drawings along with any minor spelling errors, general typographical errors, accuracy, assurance of proper use for Trademarks TM, and other legal symbols ®, where required, and clarity of meaning in the Specification, Drawings, and specifically the claims (i.e., provide proper antecedent basis for "the" and "said" within each claim). Minor typographical errors could render a Patent unenforceable and so the applicant is strongly encouraged to aid in this endeavor. The following are just some examples:
7. The element of "Then, this evaluating circuit 601 feed back the evaluated output to the carrier wave oscillator 406 of the internal appliance communication-purpose transmission circuit", especially "*the carrier wave oscillator 406*" is not defined.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kanazawa et al.** US patent # **7,283,853 B2** in view of **Burdick et al.** US patent # **6,424,820 B1**.

10. As to claim 1, Kanazawa discloses an electronic apparatus (*Figs. 4, 15, elements 100, 200 respectively*) equipped with at least a first transmission unit (*Figs. 4, 15, element 101*) for performing a first communication by an electromagnetic wave; a second transmission unit (*Figs. 4, 15, element 102*) for performing a second communication by an electromagnetic wave; and a reception unit (*Figs. 4, 15, element display 152*) for receiving a signal (*display data*) transmitted from said second transmission unit;

However, Kanazawa does not explicitly disclose an antenna in which a diameter of a sphere including a radiator is smaller than $1/(2\pi)$ of a wavelength of an electromagnetic wave used in either said second transmission unit or said reception unit.

Burdick discloses a small compact antenna (*Fig. 13, elements 132, 133, 134, 136*) in which a diameter of a sphere including a radiator is smaller than $1/(2\pi)$ of a wavelength of an electromagnetic wave used in either said second transmission unit or said reception unit (*col. 34, lines 15-41*).

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time of the invention was made to have incorporated Burdick's teachings of small compact antennas in wireless communication (*Burdick, Fig. 13, col. 33, line 25 –*

col. 34, line 41) with the teachings of Kanazawa, for the purpose of *optimizing the near-field wireless communication for mobile terminal (Burdick, col. 34, lines 31-41).*

11. As to claim 2, Kanazawa-Burdick discloses said antenna is constituted by the radiator; and a reactance element for canceling a reactance component of said radiator (*Kanazawa, Fig. 6; Burdick, 39, line 66 - col. 40, line 17).*

12. As to claim 3, Kanazawa-Burdick discloses said first transmission unit (*Kanazawa, Figs. 4, 15, element 101*), said second transmission unit (*Kanazawa, Figs. 4, 15, element 102*), or either a partial circuit or all circuits of said reception unit (*Kanazawa, Fig. 23, element 157 or 117, col. 17, lines 27-38*) are constructed on a semiconductor integrated circuit; and either a portion or all of reactance components of the radiator of said antenna are canceled by both a reactance component owned by a wiring line on said semiconductor integrated circuit, and a reactance component owned by a wiring line defined from said semiconductor integrated circuit up to the radiator of the antenna (*Kanazawa, Fig. 6; Burdick, 39, line 66 - col. 40, line 17).*

13. As to claim 4, Kanazawa discloses an electronic apparatus (*Kanazawa, Figs. 4, 15, elements 100, 200 respectively*) equipped with at least a first transmission unit (*Kanazawa, Figs. 4, 15, element 101*) for performing a first communication by an electromagnetic wave; a second transmission unit (*Kanazawa, Figs. 4, 15, element 102*) for performing a second communication by an electromagnetic wave; and a reception unit (*Kanazawa, Figs. 4, 15, element 152*) for receiving a signal (*display data*) transmitted from said second transmission unit;

However, Kanazawa does not explicitly disclose an antenna in which a diameter of a sphere including a radiator is smaller than $1/(2\pi)$ of a wavelength of an electromagnetic wave used in either said second transmission unit or said reception unit.

Burdick discloses a small compact antenna (*Fig. 13, elements 132, 133, 134, 136*) in which a diameter of a sphere including a radiator is smaller than $1/(2\pi)$ of a wavelength of an electromagnetic wave used in either said second transmission unit or said reception unit (*col. 34, lines 15-41*).

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time of the invention was made to have incorporated Burdick's teachings of small compact antennas in wireless communication (*Burdick, Fig. 13, col. 33, line 25 – col. 34, line 41*) with the teachings of Kanazawa, for the purpose of *optimizing the near-field wireless communication for mobile terminal* (*Burdick, col. 34, lines 31-41*); Burdick discloses evaluation means (*Burdick, Fig. 13, element 131*) for evaluating a reception condition of said reception unit; control means (*Burdick, Fig. 13, element 131*) for controlling a frequency of an electromagnetic wave transmitted by said second transmission unit; and feedback means (*Burdick, Fig. 13, element 131*) for feeding back an evaluation result made by said evaluation means to said control means (*Burdick, Fig. 13, col. 33, line 22 – col. 34, line 14*).

14. As to claim 5, Kanazawa-Burdick discloses a shape of the radiator of said antenna is a line shape (*Burdick, Fig. 13, col. 33, line 25 – col. 34, line 41*).

15. As to claim 6, Kanazawa-Burdick discloses, wherein the radiator of said antenna is constituted by a print pattern formed on a printed circuit board (*Burdick, Fig. 13, col. 33, line 25 – col. 34, line 41*).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over

**Kanazawa et al., Burdick et al., and further in view of Bridgelall et al. US patent #:
6,895,255 B1.**

18. As to claim 7, Kanazawa wireless communication terminal comprising:

a first housing unit (*Kanazawa, Figs. 4, 15, element 112*);

a second housing unit (*Kanazawa, Figs. 4, 15, element 154*); a coupling unit (*Kanazawa, Figs. 4, 15, element 103*) for coupling said first housing unit to said second housing unit in such a manner that a positional relationship between said first housing unit and said second housing unit is changeable;

an external wireless communication-purpose antenna (*Kanazawa, Figs. 4, 15, element 150, 250 respectively*) which is mounted on either said first housing unit or said second housing unit;

an external wireless communication control unit mounted on said first housing unit (*Kanazawa, Figs. 4, 15, element 150, 250 respectively*), for mainly controlling an

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external wireless communication performed via said external wireless communication-purpose antenna;

a display unit (*Kanazawa, Figs. 4, 15, element 152*) mounted on said second housing unit; a first internal wireless communication control unit mounted on said first housing unit, for controlling an internal wireless communication executed between said first housing unit and said second housing unit;

a second internal wireless communication control unit (*Kanazawa, Fig. 16, element 157*) mounted on said second housing unit, for controlling an internal wireless communication executed between said first housing unit and said second housing unit;

However, Kanazawa does not explicitly disclose a first or second antenna in which a diameter of a sphere including a radiator is smaller than $1/(2\pi)$ of a wavelength of an electromagnetic wave used in said internal wireless communication.

Burdick discloses a small compact antenna (*Fig. 13, elements 132, 133, 134, 136*) in which a diameter of a sphere including a radiator is smaller than $1/(2\pi)$ of a wavelength of an electromagnetic wave used in said internal wireless communication (*col. 34, lines 15-41*).

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time of the invention was made to have incorporated Burdick's teachings of small compact antennas in wireless communication (*Burdick, Fig. 13, col. 33, line 25 – col. 34, line 41*) with the teachings of Kanazawa, for the purpose of *optimizing the near-field wireless communication for mobile terminals* (*Burdick, col. 34, lines 31-41*); and

However, Kanazawa-Burdick does not explicitly disclose an internal wireless

timing control unit for controlling transmission timing of the electromagnetic wave transmitted in said internal wireless communication based upon transmission timing of the electromagnetic wave transmitted via said external wireless communication-purpose antenna.

Bridgelall discloses a dual mode mobile unit operating to reserve a time interval for Bluetooth activity (Abstract) for the purpose of *avoiding interferences (Bridgelall, Abstract)*.

19. Further references of interest are cited on Form PTO-892 which is an attachment to this action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAI V. NGUYEN whose telephone number is (571)272-3901. The examiner can normally be reached on 6:00-3:30 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Anderson can be reached on 571-272-4177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. V. N./
Examiner, Art Unit 2618

/Matthew D. Anderson/
Supervisory Patent Examiner, Art Unit 2618